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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,424	07/30/2002	Jean-Marc Suau	220640US0PCT	1485
22850	7590	03/30/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			SASTRI, SATYA B	
			ART UNIT	PAPER NUMBER

1713

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,424

Applicant(s)

SUAAU ET AL.

Examiner

Satya B Sastri

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 19 and 21-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6-12, 19, 24-27 and 32-35 is/are rejected.
- 7) ☒ Claim(s) 1, 2, 5, 7, 21-23 and 28-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to application filed on July 30, 2002. *Claims 1-12, 19, 21-35* are now pending in the application.

Claim Objections

2. *Claims 1 and 7* are objected to because of the following informalities: The claims include "such as" (in lines 6 and 8 of claim 1 and line 8 of claim 7).

Claim 12 is objected to for the use of trade name PSS-PAA in the claim language.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. *Claims 1, 3, 4, 6-12, 19, 24-27, 32-35* are rejected under 35 U.S.C. 103(a) as being unpatentable over McCallum, III et al. (US 5,866,664).

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The prior art to McCallum et al. discloses a **process** to efficiently utilize the chain transfer agent based on **phosphorous acid or salts** in the preparation of low molecular weight **polycarboxylate polymers** comprising employing **in process neutralization** of the **carboxylic acid monomers** (abstract). Preferably, the prior art process comprises metering 75 to 100% by weight of the monomer into the polymerization reactor containing water and from 25 to 100 % by weight of the phosphorous acids and salts thereof, and wherein an **alkaline neutralizer** is **present during the polymerization** in an amount sufficient to neutralize at least 30%, based on equivalents, of the acid group of unsaturated acids monomers (column 2, lines 36-57).

Phosphorous acid may be used in amounts of from **1 to 25% by weight**, based on the total weight of the monomer (column 4, lines 27-33). Examples of unsaturated acid monomers are **acrylic acid**, methacrylic acid, crotonic acid, vinylacetic acid, maleic acid, fumaric acid etc. (column 3, lines 12-67). The **molecular weight** of the polymer is below **10, 000** (column 4, lines 33-46). The process is a combination of **co-feed and heel process** where in a portion of the **chain transfer agent** is **present in the polymerization reactor** and the remainder and the remainder of the chain transfer agent and the other reactants are metered into the reactor (column 7, lines 37-56). The alkaline **neutralizing agent** may be any organic or **inorganic base** with the preferred bases selected from sodium hydroxide, potassium hydroxide etc. (column 5, lines 52-67). The polymers may be useful as scale inhibitors in water treatment and oil production (column 9, lines 1-3).

The difference between prior art and present invention is with regard to a combination of alkali and alkaline earth bases as neutralizing agent in the present invention as opposed to any base taught by the prior art.

The prior art does not expressly teach that both group I and group II based inorganic bases are useful in the process for preparing polycarboxylate polymer. However, **the disclosure includes that any generic inorganic base may be used with a preferred examples cited.** Such a teaching does not exclude combinations of bases based on group I and group II metals as disclosed in the instant invention. Based on the teachings in the prior art, it would have been obvious for one of ordinary skill in the art at the time the invention was made to include a combination of bases for neutralization of acid groups and thereby obtain the present invention (*claims 1, 3, 4, 6-12, 19, 24-27, 32-35*).

Allowable Subject Matter

5. ***Claims 2, 5, 21-23, 28-31*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: ***Claim 2*** is directed to the process wherein chain transfer agent is added prior to the start of polymerization as opposed to metered addition in full or partial metered addition taught by the prior art. Working examples in prior art teach addition of aqueous alkali as opposed to pellets or powder of alkali (*claim 5*). ***Claims 21-23, 28, 29, 30*** are directed to a process of grinding or dispersing one or more minerals, the process for making paper and method of stabilizing zeolite using the copolymer made by the claimed process. There is no teaching in the prior art concerning these processes.


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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272-1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272-1114.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 308-0661.



SATYA SASTRI

March 21, 2004



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700